

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference P102667WO	FOR FURTHER ACTION see Form PCT/ISA/220 as well as, where applicable, item 5 below.	
International application No. PCT/GB2004/002827	International filing date (day/month/year) 28/06/2004	(Earliest) Priority Date (day/month/year) 28/06/2003
Applicant ASTERION LIMITED		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 7 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ The international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. ☒ With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, see Box No. I.

2. ☒ **Certain claims were found unsearchable** (See Box II).

3. ☐ **Unity of invention is lacking** (see Box III).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. With regard to the **drawings**,

- a. the figure of the **drawings** to be published with the abstract is Figure No. _____

☐ as suggested by the applicant.

☐ as selected by this Authority, because the applicant failed to suggest a figure.

☐ as selected by this Authority, because this figure better characterizes the invention.

- b. ☒ none of the figures is to be published with the abstract.

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Box No. I Nucleotide and/or amino acid sequence(s) (Continuation of item 1.b of the first sheet)

1. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, the international search was carried out on the basis of:
 - a. type of material
 - ☒ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material
 - ☒ in written format
 - ☒ in computer readable form
 - c. time of filing/furnishing
 - ☐ contained in the international application as filed
 - ☐ filed together with the international application in computer readable form
 - ☒ furnished subsequently to this Authority for the purpose of search
2. ☒ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
3. Additional comments:

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A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C07K14/52 C07K14/61 C12N15/10 C12N15/86 C12N5/10
A01K67/027 A61K38/27 A61K38/19 A61K48/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C07K C12N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	KREITMAN ROBERT J ET AL: "Circularly permuted interleukin 4 retains proliferative and binding activity" CYTOKINE, vol. 7, no. 4, 1995, pages 311-318, XP002326238 ISSN: 1043-4666 cited in the application the whole document ----- -/--	1,2,5-8, 41-46, 48,49



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the International filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

G document member of the same patent family

Date of the actual completion of the international search

27 April 2005

Date of mailing of the international search report

10/05/2005

Name and mailing address of the ISA

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Paresce, D

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	HORLICK R A ET AL: "PERMUTEINS OF INTERLEUKIN 1 BETA-A SIMPLIFIED APPROACH FOR THE CONSTRUCTION OF PERMUTATED PROTEINS HAVING NEW TERMINI" PROTEIN ENGINEERING, OXFORD UNIVERSITY PRESS, SURREY, GB, vol. 5, no. 5, 1992, pages 427-431, XP002022097 ISSN: 0269-2139 the whole document	1,2,5-8, 41-46, 48,49
X	US 5 635 599 A (PASTAN ET AL) 3 June 1997 (1997-06-03) columns 1-11	1,2, 4-13,24, 26,27, 41-49,53
X	MCWHERTER C A ET AL: "Circular. permutation of the granulocyte colony-stimulating factor receptor agonist domain of myelopoietin" BIOCHEMISTRY, AMERICAN CHEMICAL SOCIETY. EASTON, PA, US, vol. 38, no. 14, 6 April 1999 (1999-04-06), pages 4564-4571, XP002131431 ISSN: 0006-2960 the whole document	1,2, 4-10,13, 24-27, 41-49,53
X	WO 00/18905 A (G.D. SEARLE & CO; LEE, STEPHEN, C) 6 April 2000 (2000-04-06) cited in the application page 1 - page 12; table 1	1,2,4-9, 13, 41-49,53
Y	the whole document	1-50,52, 53
Y	US 6 136 563 A (CUNNINGHAM ET AL) 24 October 2000 (2000-10-24) cited in the application column 4	1-50,52, 53

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FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Continuation of Box II.1

Although claim 53 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.

Continuation of Box II.2

Claims Nos.: 51

Present claim 51 relates to an extremely large number of possible compounds/products. Support within the meaning of Article 6 PCT and/or disclosure within the meaning of Article 5 PCT is to be found, however, for only a very small proportion of the compounds/products claimed. In the present case, the claims so lack support, and the application so lacks disclosure, that a meaningful search over the whole of the claimed scope is impossible. Consequently, the search has been carried out for those parts of the claims which appear to be supported and disclosed, namely claims 1-50, 52-53.

The applicant's attention is drawn to the fact that claims relating to inventions in respect of which no international search report has been established need not be the subject of an international preliminary examination (Rule 66.1(e) PCT). The applicant is advised that the EPO policy when acting as an International Preliminary Examining Authority is normally not to carry out a preliminary examination on matter which has not been searched. This is the case irrespective of whether or not the claims are amended following receipt of the search report or during any Chapter II procedure. If the application proceeds into the regional phase before the EPO, the applicant is reminded that a search may be carried out during examination before the EPO (see EPO Guideline C-VI, 8.5), should the problems which led to the Article 17(2) declaration be overcome.

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Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.: 51 completely and 53 partially
because they relate to subject matter not required to be searched by this Authority, namely:
Although claim 53 is directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☒ Claims Nos.: 51
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
see FURTHER INFORMATION sheet PCT/ISA/210
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/GB2004/002827

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
US 5635599	A	03-06-1997	AT 231886 T	15-02-2003
			AU 694211 B2	16-07-1998
			AU 2285795 A	30-10-1995
			CA 2187283 A1	19-10-1995
			DE 69529517 D1	06-03-2003
			DE 69529517 T2	06-11-2003
			EP 0754192 A1	22-01-1997
			ES 2190451 T3	01-08-2003
			WO 9527732 A2	19-10-1995
			US 6011002 A	04-01-2000
WO 0018905	A	06-04-2000	AU 6246599 A	17-04-2000
			EP 1115854 A1	18-07-2001
			WO 0018905 A1	06-04-2000
US 6136563	A	24-10-2000	US 5849535 A	15-12-1998
			US 5534617 A	09-07-1996
			US 6057292 A	02-05-2000
			US 6004931 A	21-12-1999
			AU 718439 B2	13-04-2000
			AU 7073396 A	09-04-1997
			CA 2230492 A1	27-03-1997
			DE 851925 T1	14-08-2003
			EP 0851925 A1	08-07-1998
			ES 2190388 T1	01-08-2003
			JP 11512298 T	26-10-1999
			JP 3628333 B2	09-03-2005
			JP 2005021157 A	27-01-2005
			WO 9711178 A1	27-03-1997
			ZA 9607973 A	23-06-1997
			US 6022711 A	08-02-2000
			US 6143523 A	07-11-2000
			US 5854026 A	29-12-1998

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